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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/778,079	02/07/2001	Wataru Kubo	P20277	4565

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GREENBLUM & BERNSTEIN, P.L.C.  
1950 ROLAND CLARKE PLACE  
RESTON, VA 20191

EXAMINER

PSITOS, ARISTOTELIS M

ART UNIT	PAPER NUMBER
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2653

DATE MAILED: 07/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)	
	09/778,079	KUBO, WATARU	
	Examiner	Art Unit	
	Aristotelis M. Psitos	2653	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on Telephone interviews - see attached.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☐ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_

- 4) ☒ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. FILED TO App. 6/18/05
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

In response to applicant's communications with respect to amended the appealed claims so as to include the term "single" in the appropriate locations, e.g. prior to the phrase --- objective lens --- in the preamble of independent claim 1, as well as all locations in the remaining claims to ensure proper antecedence, so as to distinguish over the art applied in the previous Final Rejection and hence overcome such rejections, this required the examiner to update the search. This resulted in the discovery of the references identified below. Hence PROSECUTION ON THE MERITS IS REOPENED, the finality of the previous OA is hereby WITHDRAWN, the proposed amendments are approved for entry into the pending claims, and the following action is taken, see MPEP ¶ 706.07 (e).

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

***Claim Rejections - 35 USC § 103***

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

1. Claims 1-3 and 8 are rejected under 35 U.S.C. 102(b) as being anticipated by Kittaka et al.

The following analysis is made.

**Claim 1**

A single objective lens for an optical pick-up  
that converges a parallel light beam incident

**Kittaka et al**

abstract/title/figure 1 – see description  
starting in col 1 line 16.

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thereon onto a recording layer of an optical medium,  
said single objective lens comprising:

a single glass plano-convex lens having a  
rotationally symmetrical convex aspherical  
surface at the incident side of the  
parallel light beam and a flat surface at the  
side of said optical medium,  
configured to maintain a numerical aperture  
not less than 0.7.

starting at col 1 lines 1-40  
note disclosure with respect to  
aspherical press forming -  
see figure, showing depiction of  
surfaces,

see col. 6 lines 35-43

In the above analysis, the above document discloses glass as the material for the objective lens—  
see col 1 lines 55 plus.

With respect to the phrase “rotationally symmetrical convex aspherical surface”, the examiner  
concludes that such is inherently met by the above document, as depicted by the figures because:

a) If the shape of the lens was not symmetrical, identification of such a process would be noted-  
disclosed, i.e., positive steps would be recited to yield a rotationally asymmetry shape, hence the  
examiner considers such a limitation inherently present, i.e., no specific teaching in the reference that it  
isn't.

and,

b) as disclosed and latter claimed in the presented application, a molding process manufactures  
such a lens – claim 3.

Since the Kittaka et al reference does disclose such as part of the conventional manufacturing  
process – see col. 1 lines 28-30, the examiner again concludes that such is inherently present.

In keeping with MPEP § 2112 sections III & IV, the examiner concludes that such a “rotationally  
symmetrical” limitation **necessarily flow** from the above reference.

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With respect to the NA requirement, as noted in col. 1 lines 28-30 present/conventional objective lenses for DVD environment are 0.6, and further miniaturization of the lens is difficult due to manufacturing press-formed die process. This refers to the radius of the convex portion of the plano-convex lens.

Nevertheless, increasing the NA is achieved if limits to the radius are not paramount.

Hence, since increased NA is desirable, to increase the data density in this environment and because as disclosed in the above noted col. 6 disclosure in Kittaka et al system, the examiner considers such a limitation as also being disclosed and met.

Furthermore, the term "configured" is not clearly defined in the remainder of the specification – the examiner fails to find clear support for such in the originally filed specification and respectfully requests further clarification as to what/how the objective lens is "configured".

With respect to claim 2, wherein the refractive index of said glass is not smaller than 1.6, such is met by the range of index of refractions listed/disclosed.

With respect to claim 3, such is considered a manufacturing technique – see the discussion with respect to Col. 1 lines 28 plus "molded glass lenses", and the examiner concludes that the use of "dies" is common place. see *In re Thorpe*, 777 F.2d 695, 227 USPQ 964, 966 (Fed. Cir. 1985).

With respect to claim 8, such is not a SIL.

2. Claims 1-3, 6 and 8 are rejected under 35 U.S.C. 102(a) as being anticipated by item 01 LPX 401 or LPX 407 as noted in the MELLES GRIOT catalog. The following analysis is made.

Claim 1

Melles Griot catalog/pgs 6.2-6.3

A single objective lens for an optical pick-up  
that converges a parallel light beam incident  
thereon onto a recording layer of an optical medium,  
said single objective lens comprising:

see page 6.2

a single glass plano-convex lens having a

see figure, showing depiction of

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rotationally symmetrical convex aspherical  
surface at the incident side of the  
parallel light beam and a flat surface at the  
the side of the optical medium,  
configured to maintain a numerical aperture  
not less than 0.7.

see page 6.3, f# for LPX 401  
or the f# for LPX 407

With respect to claim 2, this limitation is met.

With respect to the limitations of claim 3, this is drawn to a manufacturing capability, and in keeping with *In re Marosi*, 710 F.2d 798,218 USPQ (Fed. Cir. 1983) - further see MPEP § 2113 – product by process discussion. The examiner concludes such is present. Furthermore, as discussed in Kittaka et al at col. 1 lines 28-40 with respect to conventional manufacturing of glass lenses by dies.

With respect to claims 6 & 8, such is the case.

The above attached copies of the specification(s) for the LPX 401 and 407 plano-convex lens meets the above claimed limitations. It is noted that the copyright date for the specifications is a range from 2000-2205. The examiner at this point takes the position that the LPX 401, or 407 lens was available prior to applicants filing date, and is attempting to discover the earliest date for such. Since applicant has not perfected his priority papers the application's filing date is met.

3. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over the art as applied to claim 1 as stated in paragraphs 1 and 2 above, and further in view of Kiriki et al.

Furthermore, the ability of having an outer flange for an objective lens is taught by Kiriki et al – see figure 19.

It would have been obvious to modify the base system of the references relied upon above with respect to claims 1,2, with the above additional teaching in order to provide for a molded glass lens with a flange so as to be retrieved from the mold.

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4. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over the art as applied to claim 1 as stated in paragraph 1 above, and further in view of Jutte.

With respect to the recited rms value, it is noted that the Jutte reference – teaches such see the discussion at col. 5 lines 15-20 as well as col. 4 lines 65 plus. Alternatively, it is also noted that the JP document 04-163510 (MAT) discusses such rms values – see the MAT commencing at page 8 thereof.

Hence such a limitation is obvious for the reasons stated in Jutte, or the MAT teaching from the JP document 04-163510.

5. Claims 5, 7 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over the art as applied to claims 1-3, and 8 as stated in paragraphs 1 & 2 above, and further in view of Awano et al.

Independent claim 5 includes an additional magnetic coil on the flat surface of the objective lens.

Awano et al teaches in this environment the placement of a magnetic coil onto a flat surface of the lens element. – see for instance col. 3 lines 10 plus..

It would have been obvious to modify the base system of as discussed above in paragraph 1 with the additional teaching from Awano et al, motivation is to reduce the overall footprint of the device by making it more compact. The use of the coils as part of the actuating subunits/elements is hence made easier.

With respect to claim 9, as stated above with respect to claim 8, (same limitation), the lens is not a SIL.

6. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over the art as applied to claim 5 as stated in paragraph 5 above, and further in view of Brezoczky et al.

The ability of having focusing actuator in this environment is taught by the Brezoczky et al system – see the discussion with respect to figure 5.

It would have been obvious to modify the base system as stated above in paragraph 5 and modify such so as to have a focusing actuator to provide for focusing upon the record medium.

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**Conclusion**

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Katayama – also teaches a plano-convex objective (lens) flying head system, see col. 3, lines 45-50 for description of the plano-convex lens. The lens can be either a SIL type, or the like – see col. 2 lines 53-60.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Aristotelis M. Psitos whose telephone number is (571) 272-7594. The examiner can normally be reached on M-Thursday 8 - 4.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William R. Korzuch can be reached on (571) 272-7589. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Aristotelis M Psitos  
Primary Examiner  
Art Unit 2653



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